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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1419

ACCELERATED AGEING AND SIMULATED SERVICE TEST OF FABRICS COATED WITH RUBBER OR PLASTICS

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For each individual country the only valid standard is the national standard of that country.

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BRIEF HISTORY

The ISO Recommendation R 1419, *Accelerated ageing and simulated service test of fabrics coated with rubber or plastics*, was drawn up by Technical Committee ISO/TC 45, *Rubber*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1419, which was circulated to all the ISO Member Bodies for enquiry in December 1967. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Iran	Poland
Austria	Ireland	Spain
Czechoslovakia	Israel	Sweden
France	Italy	Switzerland
Germany	Japan	U.A.R.
Hungary	Netherlands	United Kingdom
India	New Zealand	U.S.A.

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1419 | August 1970

ACCELERATED AGEING AND SIMULATED SERVICE TEST OF FABRICS COATED WITH RUBBER OR PLASTICS

INTRODUCTION

Accelerated ageing tests on coated fabrics cannot normally follow the procedures generally adopted for other rubber or plastics goods.

The reason for this arises from the fact that their principal characteristics are relatively large areas coupled with thin rubber or plastics coatings, and these coatings will not normally provide test pieces suitable for the measurement of physical properties.

The existence of a comparatively large exposed area increases the desirability and importance of carrying out accelerated ageing tests, and this assumes even greater influence when the material is of the so called "cold cure" type.

In view of the special circumstances, it is considered necessary to specify a range of accelerated ageing tests of graduated severity, depending on the type of proofing concerned. It is primarily intended that such tests should be used to determine the resistance of the coating to general deterioration, and that, as such, they should be complete in themselves, i.e. they will not necessarily be followed by some physical measurements such as waterproofness.

The oven method of ageing is particularly intended to permit, to some extent, a comparison and classification of products of the same type and intended for the same applications.

It is not possible to establish a fixed and universal relationship between the duration of ageing in the oven and the useful life of the objects; such relationships can be established only for each individual case.

Attention is drawn to the Introduction of ISO Recommendation R 188, *Accelerated ageing or simulated service tests on vulcanized natural or synthetic rubbers,* insofar as it is applicable to coated fabrics.

1. SCOPE

This ISO Recommendation is concerned with accelerated ageing and simulated service tests of fabrics coated with rubber or plastics using the methods of ISO Recommendation R 188, *Accelerated ageing or simulated service tests on vulcanized natural or synthetic rubbers.*

Two methods are recommended, the oven method, and the oxygen pressure method.

2. APPARATUS

The apparatus should comply with the requirements of ISO Recommendation R 188, *Accelerated ageing or simulated service tests on vulcanized natural or synthetic rubbers,* section 3 "Oven method", or section 4 "Oxygen pressure method", whichever is applicable.

3. TEST PIECES

Test pieces should be taken at not less than 0.10 m from the selvedge and not less than 1 m from the end of the roll or piece.

The size of the test piece depends upon the property to be examined. For examination of properties such as tear, waterproofness, etc., the dimensions of the test piece should be those required by the particular method. For purposes such as ascertaining the degree of stiffness, softness, or decomposition, a test piece not less than 100 mm × 50 mm for the oven method and 75 mm × 25 mm for the oxygen pressure method should be used.

4. CONDITIONING

Unless otherwise specified for technical reasons, the following procedures should be used :

(*a*) For all test purposes the minimum time between vulcanization and testing should be 16 hours.

(*b*) For non-product tests the maximum time between vulcanization and testing should be 4 weeks and for evaluations intended to be comparable the tests should, as far as possible, be carried out after the same time interval.

(*c*) For product tests, wherever possible, the time between vulcanization and testing should not be more than 3 months. In other cases tests should be made within 2 months of the date of receipt by the customer of the product.

5. PROCEDURE

5.1 Oven method

The procedure of ISO Recommendation R 188, *Accelerated ageing or simulated service tests on vulcanized natural or synthetic rubbers,* should be followed.

Where ageing is conducted on the 100 mm × 50 mm test pieces, they should be observed and handled for any signs of softening, stiffening, tackiness, brittleness, discolouration, or other loss of properties, and the presence or absence of the characteristic odour of decomposition should be noted. This should be done in comparison with the unaged material. Where the test pieces are exposed at a temperature above 70 °C they should also be examined for additional properties such as tensile strength and tear.

The duration of test should be 1, 3, 7, 10 or some multiple of 7 days.

The temperature of test should be one of the following :

70 ± 1 °C
100 ± 1 °C

The pressure should be atmospheric.

5.2 Oxygen pressure method

The procedure of ISO Recommendation R 188, *Accelerated ageing or simulated service tests on vulcanized natural or synthetic rubbers,* should be followed.

Where ageing is conducted on the 75 mm × 25 mm test pieces, they should be observed and handled for any signs of softening, stiffness, tackiness, brittleness, discolouration or other loss of properties, and the presence or absence of the characteristic odour of decomposition should be noted. This should be done in comparison with the unaged material.

The duration of test should be 24 hours or some multiple thereof.

The temperature of test should be 70 ± 1 °C.

The pressure should be 2060 ± 100 kN/m^2.